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09/677,979	10/03/2000	Alan L. Cox	4646.002	7664

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Edward Goldstein  
Goldstein & Faucett L L P  
1177 West Loop South  
Suite 400  
Houston, TX 77027

EXAMINER

TRUONG, BAO Q

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 05/25/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/677,979

Applicant(s)

COX ET AL.

Examiner

Bao Q Truong

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 40-95 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 40-46, 48-63, 65-76, 78-89 and 91-95 is/are rejected.
- 7) ☒ Claim(s) 47, 64, 77 and 90 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

Art Unit: 2187

1. The examiner acknowledges the applicant's submission of Amendment for Application No. 09/677,979 dated on 16 March 2004. Claims 1-39 have been cancelled; claims 69, and 92-94 have been amended. The application has a total of 56 claims pending. There are 4 independent claims and 52 dependent claims, all of which are ready for examination by the examiner.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 40-46, 48-63, 65-76, 78-89 and 91-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantha et al. (U.S. Patent No. 6,163,779) in view of Ganger et al. (Embedded Inodes and Explicit Grouping: Exploiting Disk Bandwidth for Small Files - 1997).

Referring to claims 40 and 83, Mantha teaches a method and a computer program product in computer readable media for use in storing Web content, comprising:

receiving a Web page as displaying a base HTML document on a browser of a Web client  
(see **abstract and summary of the invention**);

Art Unit: 2187

identifying Web objects having correlated retrieval times to the Web page as identifying an embedded object associated with each hypertext reference in the base HTML document (see **abstract and summary of the invention**);

receiving the Web objects as retrieving copies of the embedded objects from the server (see **abstract and summary of the invention**).

However, Mantha does not clearly teach a step of storing the Web objects in co-located positions on a storage device.

Ganger teaches a method of storing objects having correlated retrieval times in co-located positions on a disk drive (see figure 1; page 1: **Abstract**; and page 3: lines 32-52 of column 1 of Ganger).

It would have been obvious to one having an ordinary level of skill in the art at the time the invention was made to include, in the method taught by Mantha, a step of storing the Web objects in co-located positions on a storage device. This would have been obvious since Ganger clearly teaches that storing objects having correlated retrieval times in co-located positions on the disk drive reduces disk access time and improves performance (see page 4: lines 53-54 of column 2; page 5: columns 1-2; page 6: lines 1-15 of column 1; and page 11: 14-22 of Ganger).

As to claims 41 and 84, Mantha further teaches that the Web objects comprise at least one hyper-linked Web object of the Web page as a hypertext reference in the base HTML document (see **abstract and summary of the invention**).

Art Unit: 2187

As to claims 42 and 85, Mantha further teaches that the Web objects comprise at least one embedded Web object of the Web page (see column 1: lines 29-40).

As to claims 43 and 86, Mantha further teaches that the step of identifying Web objects having correlated retrieval times to the Web page further comprises parsing the Web page (see column 2: lines 28-30).

As to claims 44 and 87, Mantha further teaches a step of submitting requests for the Web objects of the Web page as requesting and retrieving a copy of the embedded object from the server (see column 2: lines 33-35).

As to claims 45 and 88, Mantha further teaches:

identifying a reference to at least one of the Web objects of the Web page as identifying an embedded object associated with each hypertext reference in the base HTML document (see **abstract and summary of the invention**);

storing the Web page in a holding area as caching a Web page in a proxy cache (see figure 3: element 227, column 6: lines 40-67, column 7: lines 1-67, and column 8: lines 1-14);

receiving the at least one of the Web objects as retrieving a copy of the embedded object from the server (see **abstract and summary of the invention**);

storing the at least one of the Web objects in the holding area as caching a Web object in a proxy cache (see figure 3: element 227, column 6: lines 40-67, column 7: lines 1-67, and column 8: lines 1-14); and

Art Unit: 2187

storing the Web page and the at least one of the Web objects in co-located positions on the storage device as taught by Ganger (see claims 40 and 83).

As to claims 46 and 89, Mantha further teaches that at least one of the Web objects comprise an embedded Web page as a hypertext reference in the base HTML document (see **abstract and summary of the invention**).

As to claims 48-51 and 91-94, the rejection is the same as that applied to claims 40 and 83 above; wherein the storage device is a hard drive that has plurality of cylinders (see **table 2** on page 11 of Ganger). According to Ganger teaching, objects having correlated retrieval times in co-located positions on a disk drive. That means those objects are stored on one cylinder or on multiple cylinders, if more space is required, as long as they are stored contiguously.

As to claims 52-56 and 95, Mantha further teaches that at least on of the Web objects comprises an electronic file; a text file as Web page contained text only; an image file; an audio file; and/or a video file (see column 2: lines 11-13).

Art Unit: 2187

Referring to claim 57, Mantha teaches a method of in storing Web content, comprising:  
receiving a plurality of Web objects as parsing the base Web page and retrieving a list of  
hypertext references or copies of the embedded objects (see column 1: lines 29-40, **abstract** and  
**summary of the invention**);

identifying at least one of the plurality of Web objects as a Web page as a hypertext  
reference in the base HTML document (see **abstract** and **summary of the invention**);

identifying at least one of the plurality of Web objects as a correlated Web object having  
a correlated retrieval time to the Web page as identifying an embedded object associated with  
each hypertext reference in the base HTML document (see **abstract** and **summary of the  
invention**).

However, Mantha does not clearly teach a step of storing the Web page and the correlated  
Web objects in co-located positions on a storage device.

Ganger teaches a method of storing objects having correlated retrieval times in co-located  
positions on a disk drive (see figure 1; page 1: **Abstract**; and page 3: lines 32-52 of column 1 of  
Ganger).

It would have been obvious to one having an ordinary level of skill in the art at the time  
the invention was made to include, in the method taught by Mantha, a step of storing the Web  
page and the correlated Web objects in co-located positions on a storage device. This would have  
been obvious since Ganger clearly teaches that storing objects having correlated retrieval times  
in co-located positions on the disk drive reduces disk access time and improves performance (see  
page 4: lines 53-54 of column 2; page 5: columns 1-2; page 6: lines 1-15 of column 1; and page  
11: 14-22 of Ganger).

As to claim 58, Mantha further teaches that the Web objects comprise at least one hyper-linked Web object of the Web page as a hypertext reference in the base HTML document (see **abstract and summary of the invention**).

As to claim 59, Mantha further teaches that the Web objects comprise at least one embedded Web object of the Web page (see column 1: lines 29-40).

As to claim 60, Mantha further teaches that the step of identifying Web objects having correlated retrieval times to the Web page further comprises parsing the Web page (see column 2: lines 28-30).

As to claim 61, Mantha further teaches a step of submitting requests for the Web objects of the Web page as requesting and retrieving a copy of the embedded object from the server (see column 2: lines 33-35).

As to claim 62, Mantha further teaches:  
identifying a reference to at least one of the Web objects of the Web page as identifying an embedded object associated with each hypertext reference in the base HTML document (see **abstract and summary of the invention**);

storing the Web page in a holding area as caching a Web page in a proxy cache (see figure 3: element 227, column 6: lines 40-67, column 7: lines 1-67, and column 8: lines 1-14);



Art Unit: 2187

receiving the at least one of the Web objects as retrieving a copy of the embedded object from the server (see **abstract** and **summary of the invention**);

storing the at least one of the Web objects in the holding area as caching a Web object in a proxy cache (see figure 3: element 227, column 6: lines 40-67, column 7: lines 1-67, and column 8: lines 1-14); and

storing the Web page and the at least one of the Web objects in co-located positions on the storage device as taught by Ganger (see claims 40 and 83).

As to claim 63, Mantha further teaches that at least one of the Web objects comprise an embedded Web page as a hypertext reference in the base HTML document (see **abstract** and **summary of the invention**).

As to claims 65-68, the rejection is the same as that applied to claims 40 and 83 above; wherein the storage device is a hard drive that has plurality of cylinders (see **table 2** on page 11 of Ganger). According to Ganger teaching, objects having correlated retrieval times in co-located positions on a disk drive. That means those objects are stored on one cylinder or on multiple cylinders, if more space is required, as long as they are stored contiguously.

As to claim 69, Mantha further teaches that at least on of the Web objects comprises an electronic file; a text file as Web page contained text only; an image file; an audio file; and/or a video file (see column 2: lines 11-13).

Art Unit: 2187

Referring to claim 70, Mantha discloses a storage system for Web objects comprising:

- a microprocessor (see figure 3: element 204);
- a storage device coupled to the microprocessor, the storage device adapted to store Web objects and storage routines (see figure 3: element 220); and
- a storage routine stored on the storage device (see column 14: lines 48-67); the storage routine adapted to receive a Web page as displaying a base HTML document on a browser of a Web client; identify Web objects having correlated retrieval times to the Web page as identifying an embedded object associated with each hypertext reference in the base HTML document; receive the Web objects as retrieving copies of the embedded objects from the server (see **abstract and summary of the invention**).

However, Mantha does not clearly disclose that the storage routine adapted to store the Web page and the Web objects in co-located positions on a storage device.

Ganger teaches a method and system of storing objects having correlated retrieval times in co-located positions on a disk drive (see figure 1; page 1: **Abstract**; and page 3: lines 32-52 of column 1 of Ganger).

It would have been obvious to one having an ordinary level of skill in the art at the time the invention was made to modify the system taught by Mantha so that the storage routine adapted to store the Web page and the Web objects in co-located positions on a storage device. This would have been obvious since Ganger clearly teaches that storing objects having correlated retrieval times in co-located positions on the disk drive reduces disk access time and improves performance (see page 4: lines 53-54 of column 2; page 5: columns 1-2; page 6: lines 1-15 of column 1; and page 11: 14-22 of Ganger).

As to claim 71, Mantha further discloses that the Web objects comprise at least one hyper-linked Web object of the Web page as a hypertext reference in the base HTML document (see **abstract and summary of the invention**).

As to claim 72, Mantha further discloses that the Web objects comprise at least one embedded Web object of the Web page (see column 1: lines 29-40).

As to claim 73, Mantha further discloses that the storage routine is further adapted to parse the Web page to identify Web objects having correlated retrieval times to the Web page (see column 2: lines 28-30).

As to claim 74, Mantha further discloses that the storage routine is further adapted to a submit requests for the Web objects having correlated retrieval times to the Web page as requesting and retrieving a copy of the embedded object from the server (see column 2: lines 33-35).

As to claim 75, Mantha further discloses that the storage routine is further adapted to:  
identify a reference to at least one of the Web objects of the Web page as identifying an embedded object associated with each hypertext reference in the base HTML document (see **abstract and summary of the invention**);

Art Unit: 2187

store the Web page in a holding area as caching a Web page in a proxy cache (see figure 3: element 227, column 6: lines 40-67, column 7: lines 1-67, and column 8: lines 1-14);

receive the at least one of the Web objects as retrieving a copy of the embedded object from the server (see **abstract** and **summary of the invention**);

store the at least one of the Web objects in the holding area as caching a Web object in a proxy cache (see figure 3: element 227, column 6: lines 40-67, column 7: lines 1-67, and column 8: lines 1-14); and

store the Web page and the at least one of the Web objects in co-located positions on the storage device as taught by Ganger (see claims 40 and 83).

As to claim 76, Mantha further discloses that at least one of the Web objects comprise an embedded Web page as a hypertext reference in the base HTML document (see **abstract** and **summary of the invention**).

As to claims 78-81, the rejection is the same as that applied to claims 40 and 83 above; wherein the storage device is a hard drive that has plurality of cylinders (see **table 2** on page 11 of Ganger). According to Ganger teaching, objects having correlated retrieval times in co-located positions on a disk drive. That means those objects are stored on one cylinder or on multiple cylinders, if more space is required, as long as they are stored contiguously.

As to claim 82, Mantha further teaches that at least one of the Web objects comprises an electronic file; a text file as Web page contained text only; an image file; an audio file; and/or a video file (see column 2: lines 11-13).

*Response to Arguments*

4. Applicant's arguments filed on 08 March 2004 have been fully considered but they are not persuasive.

The applicant argues on page 3, third paragraph, that there is no suggestion to combine the Mantha and Ganger references. The examiner disagrees and directs the applicant attention to page 4: lines 53-54 of column 2; page 5: columns 1-2; page 6: lines 1-15 of column 1; and page 11: 14-22 of Ganger. Ganger clearly teaches that storing objects having correlated retrieval times in co-located positions on the disk drive reducing disk access time and improving performance.

The applicant argues on page 4, first paragraph, that Ganger's teaching is beneficial for only small files. The examiner disagrees and directs the applicant attention to pages 13-14:

**Large File Performance** and figure 8 of Ganger. Ganger clearly discloses that the Co-locating Fast File System (C-FFS), which introduces two techniques of **embedded inodes** and **explicit grouping**, provides better bandwidth than raw disk approach and better execution time than conventional Fast File System (FFS).

The applicant argues on page 4, second paragraph, that Ganger's teaching "is not the same as identifying web objects having correlated retrieval times to the web page and storing those web objects in co-located positions on a storage device". The examiner disagrees and directs the applicant attention to the last limitation in the languages of claims 40, 57, 70, and 83. According to the language of this limitation, the web objects having correlated retrieval time are stored in co-located positions on a storage device. As disclosed in the detail description of the invention by the applicant, this limitation is for the purpose of reducing disk seek times involved in retrieving the web objects (page 12: second paragraph). Ganger teaches that most of the service time components are independent of the request size and the dominating performance characteristic of modern disk drive is that the per-request cost is much larger than the per-byte cost (see page 3: lines 18-29 of column 2). Ganger discloses the C-FFS which exploits the inter-file relationships to group to co-locate related files (see page 2: lines 14-40 of column 1; page 3: lines 9-14 of column 1).

The applicant argues on page 5, first paragraph, that Mantha does not teach identifying web objects having correlated retrieval times and storing them in co-located position and Mantha's method teaches away from applicant's method since requiring "each saved web page to be modified by replacing the original hypertext references with new references pointing to the locally stored copies of embedded objects". The examiner disagrees for the following reasons. First of all, Mantha teaches identifying web objects having correlated retrieval times as identifying an embedded object associated with each hypertext reference in the base HTML document (see **abstract** and **summary of the invention**); it is noted that a web page has web

Art Unit: 2187

objects having correlated retrieval times in the form of embedded objects associated with hypertext references. Second, the teaching of storing correlated objects in co-located positions is in Ganger reference. Finally, the teaching of Mantha **does not** require each saved web page to be modified; instead, embedded objects associated with hypertext references are obtained and saved to a local storage; a linked list (the second linked list) is used to point/link to the saved objects (see column 2: lines 45-62).

***Allowable Subject Matter***

5. Claims 47, 64, 77, and 90 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2187

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Q Truong whose telephone number is (703) 308-7090. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks, can be reached on (703) 308-1756. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

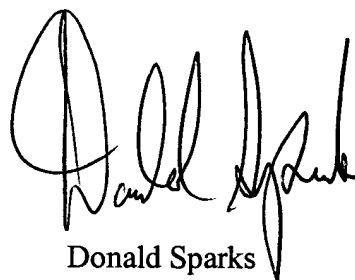
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

*Bao Q Truong*

BT

Patent Examiner

18 May 2004



Donald Sparks

Supervisory Patent Examiner

Technology Center 2100